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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,470	10/18/2004	Katsuhisa Honda	3382-0105PUS1	4730

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EXAMINER

CLEMENTE, ROBERT ARTHUR

ART UNIT PAPER NUMBER

1724

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,470

Applicant(s)

HONDA ET AL.

Examiner

Robert A. Clemente

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it exceeds 150 words and is not in accordance with 37 CFR 1.72(b).

Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:

There are multiple locations in the specification where words are not spaced properly and appear as one long word. Examples are line 12 of the abstract, line 2 on page 7, 6 lines from the bottom of page 9, etc.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. JP 2001004501 A to Honda et al. in view of Japanese Patent Application No. JP 2000163115 A to Honda et al. However, the English language European Patent Application No. EP 1219335 A1 claims priority to the secondary reference and will be cited in its place.

The 2001004501 patent teaches a filter for selecting and collecting a chlorinated organic compound contained in a fluid from the fluid, comprising: a fluid-permeable molded body containing fibers and a cellulose binder for binding the fibers to one another, and a hydrophobic material having higher hydrophobicity than that of the fibers and the cellulose binder, which is retained in the molded body. Figure 3 shows a filter, or fluid-permeable body, that is composed of two layers (71, 72). The layers are both molded into a tube shape, which is closed at one end. The first layer (71) is composed of fibers and, as disclosed in paragraph 0058, a cellulose, or organic, binder. The second layer is composed of an activated carbon material. The activated carbon material is a hydrophobic material, as shown by Table 16-3 in *Perry's Chemical Engineers' Handbook*¹. The 2001004501 patent does not disclose an inorganic binder for binding the fibers to one another. The European application, as disclosed in paragraph 0009, teaches the use of an inorganic binder to bind the fibers to one another.

¹ Perry, R.H.; Green, D.W. (1997). *Perry's Chemical Engineers' Handbook* (7th Edition). McGraw-Hill. Online version available at:
<http://www.knovel.com/knovel2/Toc.jsp?BookID=48&VerticalID=0>

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Japanese Patent No. JP 2001004501 A to include an inorganic binder for binding the fibers together as suggested by European Patent Application No. EP 1219335 A1 since the inorganic binder also has an adsorbing capability.

In regard to claim 2, as disclosed in paragraph 0058, the primary reference teaches the use of silica fibers.

In regard to claim 3, the secondary reference, in paragraph 0034 line 51, teaches using fibers with an aspect ratio that is preferably in the range of 1,000 to 10,000.

In regard to claim 4, the secondary reference, in paragraph 0009 line 32, discloses that the inorganic binder has an adsorbing capability for chlorinated organic compounds.

In regard to claim 5, the secondary reference, in paragraph 0038 line 30, teaches the inorganic binder having a tar-adsorbing capability.

In regard to claim 6, the secondary reference, in paragraph 0009 line 35, discloses the inorganic binder is at least one kind of material selected from a group consisting of alumina, zeolite and silicon dioxide.

In regard to claim 7, in paragraph 0010 line 40, the secondary reference discloses the inorganic binder to be granular, or particulate.

In regard to claim 8, the primary reference, in paragraph 0035, discloses that the activated carbon, or hydrophobic, material has an adsorbing capability for chlorinated organic compounds.

In regard to claim 9, as discussed above, the primary reference teaches the use of a hydrophobic activated carbon material.

In regard to claim 11, the primary reference, in paragraph 0014, discloses that the molded body should contain 0.01 – 3.0 grams of carbon material. Additionally, in the examples of the secondary reference, the weights of the molded bodies are in the range from 2.5 – 12.8 grams. Based on these ranges the combination of the references teaches a hydrophobic material that is retained at 0.01 to 10% by weight of the molded body.

In regard to claim 12, the secondary reference, in paragraph 0010, teaches that the fibers are activated alumina and the inorganic binder is granular, or particulate, activated alumina. The primary reference, in paragraph 0034, teaches the use of a hydrophobic activated carbon that can be in the form of a powder.

In regard to claims 10 and 13, the secondary reference teaches the bulk density of the molded body to be 0.1 to 1.0 g/cm³, and more preferably 0.3 to 0.7 g/cm³, in paragraph 0039 lines 46 – 47.

In regard to claim 14, as discussed above, the primary reference teaches the filter formed in a cylindrical shape that is closed at one end.

In regard to claim 15, the secondary reference teaches the steps of preparing a molding material containing fibers and an inorganic binder for binding the fibers to one another, molding the molding material into a predetermined shape and sintering this to obtain a molded body, as disclosed in paragraph 0041 lines 13 – 15 and paragraph 0042 lines 27 – 29. In order to incorporate the primary reference, inherently there must

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be a step that makes the molded body retain a hydrophobic material having higher hydrophobicity than that of the fibers and the inorganic binder.

In regard to claim 16, the secondary reference additionally teaches, in paragraph 0042 lines 34 – 35, that at least one of the elements including the fibers and the inorganic binder is alumina, and a temperature at sintering is set in the range of 150 to 170°C.

In regard to claim 17, the secondary reference, in paragraph 0043 lines 37 – 39, discloses a step of immersing the molded body with an aqueous dispersion of the inorganic binder and then drying the body. Inherently, this step would be performed before the step of adding the hydrophobic material to the body since the primary reference teaches the hydrophobic carbon layer to be on the outside.

In regard to claim 18, both the figures of the primary and secondary references show a fluid-permeable filter for passing the fluid from the transportation tube, and a container for accommodating the filter, and having an outlet for discharging to the outside the fluid which has passed through the filter, with the additional features discussed above.

In regard to claim 19, figure 3 shows a cylindrical filter having an opening for inserting the transportation tube into one side and closed in the other side.

In regard to claim 20, the operation of the combination filter assembly of the two references teaches the method for collecting a chlorinated organic compound step:

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rolke et al. discloses a filtering method for separating dioxins from gases, which includes a hydrophobic material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Clemente whose telephone number is (571) 272-1476. The examiner can normally be reached on M-F, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Smith Duane can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert A Clemente

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Examiner
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RAC

DUANE SMITH
PRIMARY EXAMINER

D. Smith
10-25-06